WHAT EPA PROGRAM OFFICES REGULATE ACETALDEHYDE, AND UNDER WHAT LAWS IS IT REGULATED?

EPA OFFICE	LAW	PHONE NUMBER
Pollution Prevention & Toxics	Toxic Substances Control Act	(202) 554-1404
	Emergency Planning and Community Right-to-Know Act (EPCRA): Regulations (§ 313)	(800) 535-0202
	Toxics Release Inventory data	(202) 260-1531
Air	Clean Air Act	(919) 541-0888
Solid Waste & Emergency Response	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)	(800) 535-0202
	Resource Conservation and Recovery Act / EPCRA (§ 304/311/312)	
Water	Clean Water Act	(202) 260-7588

A technical support document is available from the TSCA Assistance Information Service, (202) 554-1404.

WHAT OTHER FEDERAL AGENCIES OR GROUPS CAN I CONTACT FOR INFORMATION ON ACETALDEHYDE?

AGENCY/GROUP	PHONE NUMBER
American Conference of Governmental Industrial Hygienists	(513) 742-2020
National Institute for Environmental Health Sciences (EnviroHealth Clearinghouse)	(800) 643-4794
National Institute for Occupational Safety and Health (NIOSH)	(800) 356-4674
Occupational Safety and Health Administration	(Check your local phone book under U.S. Department of Labor)

EPA
United States
Environmental Protection Agency
Mail Code 7401

Washington, DC 20460

Official Business
Penalty for Private Use
$300

EPA Chemicals in the Environment

ACETALDEHYDE

(CAS NO. 75-07-0)

United States
Environmental Protection
Agency

Office of Pollution Prevention and Toxics (7401)

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Chemicals can be released to the environment as a result of their manufacture, processing, and use. The EPA has developed information summaries on selected chemicals to describe how you might be exposed to these chemicals, how exposure to them might affect you and the environment, what happens to them in the environment, who regulates them, and whom to contact for additional information. EPA is committed to reducing environmental releases of chemicals through source reduction and other practices that reduce creation of pollutants.

WHAT IS ACETALDEHYDE, HOW IS IT USED, AND HOW MIGHT I BE EXPOSED?

Acetaldehyde is a colorless, flammable liquid. It occurs naturally in certain foods, such as ripe fruits and coffee, and in cigarette smoke. Green plants produce acetaldehyde as they break down food. It is produced in large amounts (740 million pounds in 1989) by two companies in the United States. US production of acetaldehyde may decline in the near future as Mexico increases its production of the chemical. US demand for acetaldehyde increased slightly from 1987 to 1989, but is likely to remain steady at its current level. The largest users of acetaldehyde are companies that make acetic acid and related chemicals. Companies also use acetaldehyde to make other chemicals such as pyridine, pentaerythritol, and peracetic acid.

Exposure to acetaldehyde can occur in the workplace or in the environment following releases to air, water, land, or groundwater. Exposure can also occur when people eat fruit, drink coffee, or smoke cigarettes. Acetaldehyde enters the body when breathed in with contaminated air or when consumed with contaminated food or water. It does not remain in the body due to its breakdown, mainly to a chemical that is normally present in the human body.

WHAT HAPPENS TO ACETALDEHYDE IN THE ENVIRONMENT?

Acetaldehyde evaporates when exposed to air. It dissolves completely when mixed with water. Most direct releases of acetaldehyde to the environment are to air or to underground sites. It also evaporates from water and soil exposed to air. Once in air, it breaks down to other chemicals. Microorganisms that live in water and in soil can also break down acetaldehyde. Because it is a liquid that does not bind well to soil, acetaldehyde that makes its way into the ground can move through the ground and enter groundwater. Plants and animals are not likely to store acetaldehyde.

HOW DOES ACETALDEHYDE AFFECT HUMAN HEALTH AND THE ENVIRONMENT?

Effects of acetaldehyde on human health and the environment depend on how much acetaldehyde is present and the length and frequency of exposure. Effects also depend on the health of a person or the condition of the environment when exposure occurs.

Breathing acetaldehyde for short periods of time can irritate the human respiratory system. Acetaldehyde can also adversely affect the cardiovascular system. Contact with acetaldehyde liquid or vapor irritates the skin and the eyes. These effects are not likely to occur at levels of acetaldehyde that are normally found in the environment.

Human health effects associated with breathing or otherwise consuming small amounts of acetaldehyde over long periods of time are not known. Limited evidence from animal studies shows that acetaldehyde can adversely affect the developing fetus. Laboratory studies also show that acetaldehyde can severely damage the respiratory tract and cause cancer in animals exposed repeatedly by inhalation. Repeat exposure to acetaldehyde in air may likewise cause cancer in humans.

Acetaldehyde by itself is not likely to cause environmental harm at levels normally found in the environment. Acetaldehyde can contribute to the formation of photochemical smog when it reacts with other volatile organic carbon substances in air.